REMARKS

Claims 1-7, 10-20, 38-49, and 57-60 are currently pending in the subject application and are presently under consideration. Claims 1, 2, 4, 6, 7, 12, 16, 38, 42, 43, 45-49, 58, and 60 have been amended as shown on pages 2-11 of the Reply.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claim 58 Under 35 U.S.C §112

Claim 58 stands rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 58 has been amended to correct the parent claim reference. This correction also addresses the Examiner's concerns regarding lack of antecedent basis for the term "contextual information." It is therefore requested that this rejection be withdrawn.

II. Rejection of Claims 1, 5, 10, 17-19, 38-40, 42, 43, 46, 48-49, and 58-60 Under 35 U.S.C. §102(e)

Claims 1, 5, 10, 17-19, 38-40, 42, 43, 46, 48-49, and 58-60 stand rejected under 35 U.S.C. §102(e) as being anticipated by Spackman, *et al.* (US 6,438,533). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Spackman, *et al.* does not teach or suggest each and every feature set forth in the subject claims.

> For a prior art reference to anticipate, 35 U.S.C. §102 requires that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999) (*quoting Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)).

The subject claims relate to generation of personalized medical documents using patient information and extrinsic data sources. To this end, a database can be created consisting of a number of diagnostic codes representing a plurality of medical conditions. Each code can have an associated set of properties, including one or more conceptual equivalents to the represented medical condition, and one or more pieces of contextual information that further characterize

the medical condition. Using this information, a set of queries can be formulated for each diagnostic code using the medical condition or conceptual equivalents as search criteria, augmented by one or more of the contexts associated with the diagnostic code. Once created, these queries can be submitted to one or more databases to retrieve links to data sources satisfying the various queries. Each of these retrieved links can then be associated with the particular diagnostic code/concept/context used in the query that facilitated retrieval of the link. In this way, a database of diagnosis- and context-specific data source links can be maintained. When patient-specific medical information is submitted to the system, the submitted information can be matched with the stored diagnosis codes and any associated contexts, and a personalized medical document can be generated that includes the patient's personal medical information as well as any stored data source links associated with the relevant diagnosis codes and appropriate contexts. These medical documents can then be stored and made accessible to the patient for future reference. In particular, amended independent claim 1 recites, *generating a set of queries for each of the one or more diagnostic codes using one or more combinations of the medical condition, a subset of the one or more concepts, and a subset of the one or more contexts as search criteria; submitting the set of queries to one or more databases; retrieving and storing a list of links to content in the one or more databases that satisfies the criteria specified in the queries; associating each link in the list with the diagnostic code and context used in the query that retrieved the respective link.*

Spackman, *et al.* does not teach or suggest this technique for pre-fetching and storing diagnostic- and context-specific links to data content. Spackman, *et al.* relates to search and retrieval of patient records using a terminology knowledgebase. This knowledgebase comprises a hierarchical structure of medical concepts having defined relationships between the concepts. Queries for patient records submitted to the system are translated by the knowledgebase to conform to the conceptual structure, and the records are analyzed and retrieved in view of the query and the conceptual relationships defined in the knowledgebase. However, Spackman, *et al.* does not teach that a set of stored diagnostic concepts and relevant contexts can be used to generate data source queries, or that data source links retrieved by these queries can be stored and associated with the particular concepts and contexts used in the query that retrieved the respective links. While Spackman, *et al.* teaches that a knowledgebase of medical concepts can be maintained to facilitate accurate record retrieval, the cited reference does not contemplate

augmenting these stored concepts with pre-fetched links to external sources of pertinent data, as recited in the subject claims. Pre-selecting and storing these data source links as disclosed in amended independent claim 1 can ensure that these links are readily available for integration into a patent record, an advantage not provided by the cited reference.

Amended independent claim 1 goes on to recite, *receiving information about a patient utilizing a computer, the information about the patient including diagnosis information based on a diagnosis of the patient performed by a health care provider and includes at least a patient-specific diagnosis and a patient-specific contextual information; matching the information about the patient to at least one diagnostic code and at least one context associated with the matching diagnostic code;* ***selecting a subset of the links associated with the at least one matching diagnostic code and the at least one matching context****; and* ***generating at least one document utilizing the computer, the at least one document containing the selected subset of links and the received information about the patient.*** Hence, a personalized medical document can be created by matching patient-specific information with one or more stored diagnoses and related contexts, and inserting the pre-fetched links associated with the matching information into a newly created document. Spackman, *et al.* does not disclose such a technique for generating a medical document. Indeed, the cited reference does not consider any methods for *creating* a patient record, but rather focuses on methods for searching and retrieving a *pre-existing* set of patient records.

Similarly, amended independent claim 38 recites, *a first database that stores a set of diagnostic codes representing medical conditions, each code having stored therewith at least one conceptual equivalency and at least one context relevant to the medical condition, wherein* ***each diagnostic code is associated with a set of queries constructed using one or more combinations of the medical condition, one of the conceptual equivalencies, and one of the contexts as search criteria****, and wherein the first database* ***retrieves and stores a set of links to content in external data sources that satisfies the set of queries, each link associated with the diagnostic code and context that facilitated retrieval of the respective link***. As discussed *supra*, Spackman, *et al.* does not teach or suggest generating queries using stored diagnostic information and related context information, or storing each retrieved data source link with the diagnostic and context information used to retrieve the respective links.

Amended independent claim 38 further recites, *a first server that receives information*

about a patient from at least one source, the information about the patient including at least one diagnostic code and a patient-specific context, ***the first server matches the received diagnostic code and patient-specific context with at least one stored diagnostic code and related context and retrieves from the first database a subset of the links associated with the at least one matching diagnostic code and related context, the server generating at least one document containing the retrieved subset of links and the information about the patient.*** Spackman, *et al.* does not disclose generation of user medical documents in this manner, as already discussed.

Likewise, amended independent claim 46 recites, *generating and storing at least one query for each diagnostic code utilizing as search criteria a combination of the at least one of the associated conceptual equivalencies and at least one context; retrieving and storing a list of data source links from one or more external data sources that satisfy the query criteria; associating each retrieved data source link with the context and diagnostic code used to generate the query that retrieved the link.* As noted above, Spackman, *et al.* does not disclose retrieving and storing data source links in this manner.

Also, amended independent claim 60 recites, *means to generate a set of queries for each of the one or more diagnostic codes using one or more combinations of the medical condition, a subset of the one or more concepts, and a subset of the one or more contexts as search criteria; means to submit the set of queries to one or more databases;* ***means to retrieve a list of links to content in the one or more databases that satisfies the criteria specified in the queries; means to associate each link in the list with the diagnostic code and context used in the query that retrieved the respective link****... means to match the information about the patient to at least one diagnostic code and at least one context associated with the diagnostic code;* ***means to select a subset of the links associated with the at least one matching diagnostic code and the associated matching context; and means to generate at least one document containing selected subset of links and the received information about the patient.*** Spackman, *et al.* does not disclose theses features, as already discussed.

Amended claim 43 further underscores the relationship between stored concepts/contexts and associated data source links, reciting, *the stored content links associated with each diagnostic code are identified using a set of queries generated from the at least one conceptual equivalency that is associated with the respective diagnostic code.* Again,

Spackman, *et al.* does not contemplate storing links to relevant data sources with stored diagnostic codes, or retrieving these links by generating queries using conceptual equivalencies and characteristic contexts associated with the diagnostic codes.

In view of at least the foregoing, it is respectfully submitted that Spackman, *et al.* does not teach or suggest all aspects of amended independent claims 1, 38, 46, and 60 (and all claims depending there from), and as such fails to anticipate the present invention. It is therefore requested that this rejection be withdrawn.

III. Rejection of Claims 2-4, 11-16, 47, 57, and 59 Under 35 U.S.C. §103(a)

Claims 2-4, 11-16, 47, 57, and 59 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Spackman, *et al.* (US 6,438,533) in view of Evans (US 5,924,074). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Spackman, *et al.* and Evans do not teach or suggest all aspects of the subject claims.

> A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning. See *KSR v. Teleflex*, 550 U.S. ___, 127 S. Ct. 1727 (2007) citing Graham v. John Deere Co. of Kansas City, 383 U. S. 1, 36 (warning against a "temptation to read into the prior art the teachings of the invention in issue" and instructing courts to "'guard against slipping into the use of hindsight'" (*quoting Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co.*, 332 F. 2d 406, 412 (CA6 1964))).

Further regarding the selection of pre-stored links to include in a patient's record, amended claim 12 recites, *the at least one diagnosis identifier corresponds to one of the diagnosis codes, and the links associated with the corresponding diagnosis code are selected for inclusion in the subset of links based on the correspondence.* As discussed *supra*, Spackman, *et al.* does not teach association of pre-stored links with stored diagnostic codes. Nor does that reference teach that patient data can be matched with these diagnostic codes, and that the links associated with the matching codes can be selected for inclusion in a new document. Evans also fails to disclose these aspects. Evans relates to electronic creation and management of patients' medical records. However, while Evans teaches that diagnostic codes can be included on a patient's medical record, the cited reference does not teach that such codes can be stored and

associated with links to data sources relevant to the corresponding medical condition. Evans therefore also fails to disclose providing such links to a patient-specific document when information for a patient matches a stored diagnostic code.

Moreover, claims 2-4, 11-16, 57, and 59 depend from amended independent claim 1, and claim 47 depends from amended independent claim 46. As noted above, Evans does not disclose storage of diagnosis codes with relevant data source links, as recited in those independent claims. As such, Evans fails to remedy the deficiencies of Spackman, *et al.* with regard to those claims.

In view of at least the foregoing, it is respectfully submitted that Spackman, *et al.*, alone or in combination with Evans, does not teach or suggest all aspects of amended independent claims 1 and 47 (and all claims depending there from), and as such fails to make obvious the present invention. It is therefore requested that this rejection be withdrawn.

IV. Rejection of Claims 6-7, 41, and 44-45 Under 35 U.S.C. §103(a)

Claims 6-7, 41, and 44-45 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Spackman, *et al.* (US 6,438,533) in view of Kirk, *et al.* (US 5,768,578). However, claims 6-7 depend from amended independent claim 1, and claims 41 and 44-45 depend from amended independent claim 38. As already noted, Spackman, *et al.* does not disclose generating queries using stored diagnostic codes and related concepts and contexts, and storing the data source links retrieved by these queries with the stored codes and contexts, as recited in those independent claims. Kirk, *et al.*, which relates to a knowledge base used to store and manage information sources of interest to a user, is also silent regarding these aspects. It is therefore respectfully requested that this rejection be withdrawn with respect to claims 6-7, 41, and 44-45.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP1909USA].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicant's undersigned representative at the telephone number below.

Respectfully submitted,

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